

Electricity Pricing Event Report – Thursday 22 December 2016

Market Outcomes: South Australian Raise and Lower Regulation FCAS prices ranged between \$421.89/MWh and \$4,874.57/MWh for 5 trading intervals (TIs) between TIs ending 0730 hrs and 1000 hrs.

Energy price in South Australia was elevated, but did not reach the price threshold for reporting purposes. FCAS and energy prices in the other regions were not affected by this event.

Actual Lack of Reserve Level 2 (LOR2) condition had been declared for the South Australia region between 0600 hrs and 1311 hrs on 22 December 2016 (Market Notice 56388 and 56391). During this LOR2 period, there were sufficient capacity reserves in the South Australia region to meet electricity demand. However due to the Heywood – Tarrone 500 kV line outage, in the event of a credible contingency, whereby South Australia separated from the rest of the NEM, power interruptions would have been likely due to automatic under-frequency load shedding as a result of ramp rate limitations associated with dispatching additional generation in a short timeframe.

Detailed Analysis: The 5-minute Raise Regulation FCAS prices in South Australia ranged between \$11,300/MWh and \$12,339.03/MWh for dispatch intervals (DIs) ending 0710 hrs, 0720 hrs, 0740 hrs and 0745 hrs. During these same DIs the 5-minute Lower Regulation FCAS prices ranged between \$10,275.76/MWh and \$11,300/MWh. These high prices coincided with increased Regulation FCAS requirements in South Australia during the short notice outage of the Heywood – Tarrone 500 kV line.

The Heywood – Tarrone 500 kV line was on a short notice outage from 0605 hrs to 1309 hrs on 22 December 2016 (Market Notice 56379 and 56396). This outage increased the risk of synchronous separation between South Australia and Victoria. The outage constraint sets F-V-HYTR, S-X_BC_CP and V-HYTR were invoked for the duration of the outage. The constraint equations F_S+LREG_0035 and F_S+RREG_0035 contained within the F-V-HYTR constraint set required 35 MW of Lower and Raise Regulation FCAS capacity to be sourced from within South Australia.

Regulation FCAS in South Australia during the outage period was provided by Torrens Island A & B PS, Quarantine PS and Pelican Point PS.

For DIs ending 0710 hrs, 0720 hrs, 0740 hrs and 0745 hrs there was limited availability of lower priced Regulation FCAS.

The Lower and Raise Regulation FCAS prices reduced to \$97.02/MWh or below, for DI ending 0945 hrs when AGL rebid 15 MW of Raise and Lower Regulation FCAS capacity from band priced at \$13,980.43/MWh to bands priced at \$74.90/MWh or below.

The high Regulation FCAS prices were forecast in all pre-dispatch schedules from 1630 hrs on 21 December 2016.